DeMaria, Eva

From: SUTTER Jennifer <SUTTER.Jennifer@deq.state.or.us>
Sent: Monday, November 02, 2015 11:03 AM
To: DeMaria, Eva
Cc: Michael Allen (allenmc@cdmsmith.com); Sheldrake, Sean; MCCLINCY Matt; SUTTER Jennifer
Subject: RE: Evraz Oregon Steel Groundwater report
Attachments: NFA_Memo_GW_Source_Control_(April_4_2013).pdf

Eva
Thank you for your input on the groundwater source control evaluation at the Evraz Oregon Steel site. Please let me know when we can discuss the EPA comments and a path forward for the groundwater evaluation at this site. DEQ would like to proceed with a No Further Action determination for groundwater source control, but is concerned the EPA may have issues with this conclusion.

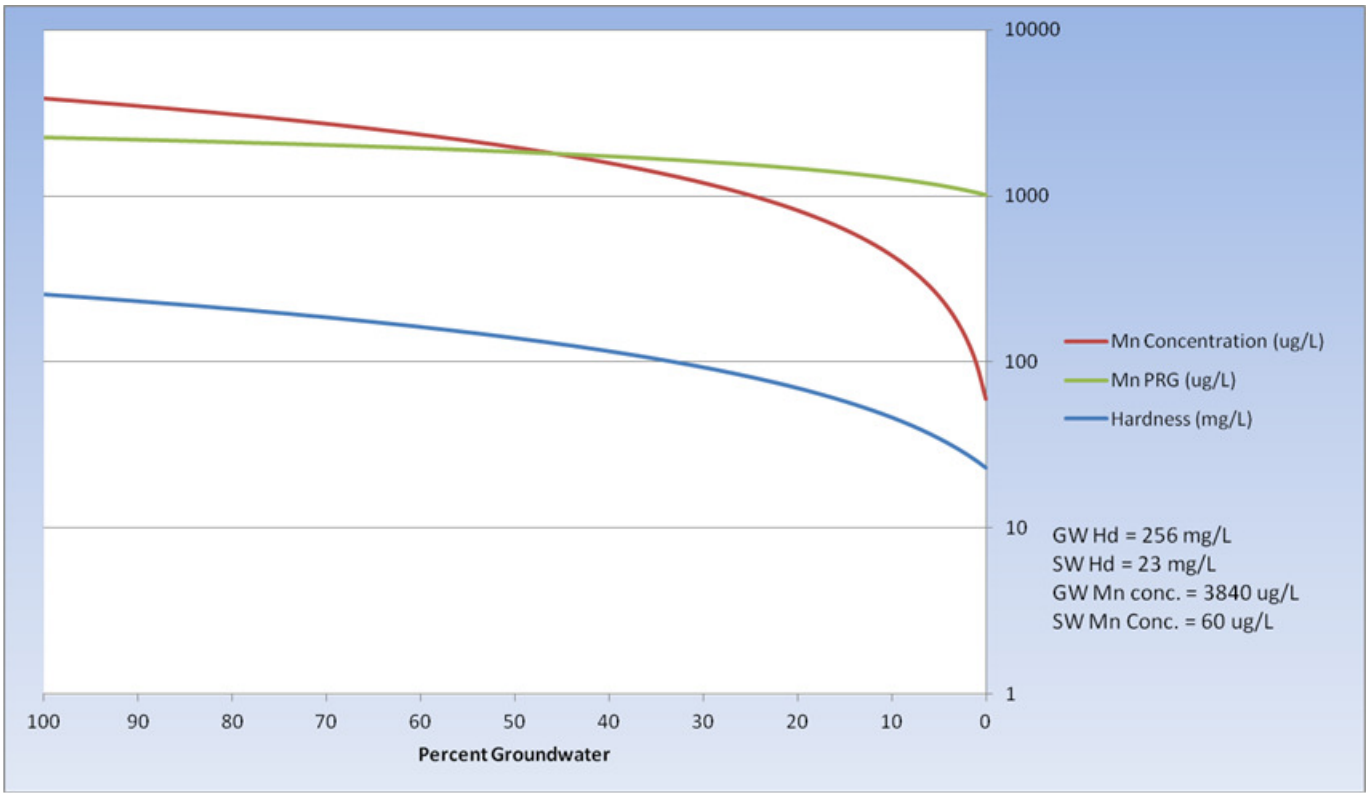
Please consider the following with respect to the EPA comments:

1. While we recognize that groundwater in the vicinity of MW-13 may not have returned to "pre-leak" conditions, DEQ supported moving forward with the sampling event in January due to the imminent decommissioning of bank and shoreline wells to allow for the shoreline source control measures to be implemented. Further monitoring of MW-13 as suggested in the EPA comments is not possible as the well has been decommissioned. We note the following in assessing the significance of the altered conditions in evaluating potential ground water source control issues in this area:
    a. The elevated pH and reduced conductivity measured in this well should result in reduced dissolution and movement of manganese in groundwater at this location. These conditions have persisted for three years.
    b. MW-17 is located riverward of MW-13 and the manganese concentrations measured in MW-17 in January were consistent with those measured 10 years prior.
2. The beach wells were constructed by EOS, under DEQ oversight, in lieu of the LWG collecting TZW off of the Evraz site. Utilizing beach wells instead of TZW for the purposes of regulatory evaluation was discussed and agreed to by EPA, DEQ and Evraz at the time. While it is true that beach groundwater is not equivalent to transition zone water, the TZW characteristics noted in the EPA comment: "oxygen-rich, biologically active…mixing with surface water" all serve to further reduce the bioavailability of manganese. Anoxic conditions are favorable to manganese dissolution while oxidizing conditions promote precipitation/sequestration. Consequently, the beach well data is a conservative estimate of manganese concentrations in the TZW.
3. EPA comments state that it is impossible to determine the benthic impact of elevated arsenic concentrations in the groundwater; however, arsenic concentrations in groundwater at EOS have never exceeded benthic toxicity criteria over 13 years of monitoring.
4. Both EPA and DEQ have agreed to use the Colorado hardness dependent methodology for calculating a chronic ambient water quality criteria for Mn. Consequently, the ecological toxicity end point should not be the old JSCS 120 ug/L ORNL value but a hardness dependent value derived following the Colorado methodology. Based on the 2015 sampling, we calculate the following hardness dependent PRGs for Mn as follows:

Well	Hardness (mg/l as Caco3)	Hardness - based AWQC (ug/L) (PRG)	Mn Conc (ug/L)
MW-9 - bank	103	1666	2410
MW-10 - bank	202	2085	5600
MW-13 - bank	23	1011	23.1
MW-17 - beach	171	1972	1480

MW-18 - beach	240	2208	471
MW-23 - beach	256	2256	3840

Under this evaluation, the only beach well that exceeds the PRG is MW-23 by a factor of 1.7. Considering this analysis along with the factors discussed in item 2 above, manganese present in groundwater at the EOS site would not be expected to adversely impact conditions in the benthic zone adjacent to the facility. Also, as shown in the figure below, as groundwater moves into surface water the manganese concentration decreases faster than the PRG, making it highly unlikely that, even in MW-23 area, manganese concentrations in the gw-sw interface would exceed the PRG.



5. EPA comments question our ability to estimate river impacts associated with arsenic detected in MW-10. Arsenic concentrations in MW-10 have ranged from 4.9 to 39.1 ppb over a period of 13 years. Arsenic concentrations in background monitoring well MW-22 have ranged from 2.4 to 5.3 ppb. Arsenic concentrations in MW-10 have ranged from 0.92 to 16 times the background value. While we do not have a beach well immediately downgradient of MW-10, beach wells south and north of MW-10 (MW-17 and MW-18) have had arsenic concentrations within the range of or below background values.

I'm also attaching my original No Further Action memorandum for your information.
Let me know when we can discuss a path forward on this issue. FYI – (b) (6) but am relatively open after that.
Thanks!

Jennifer Sutter
Project Manager, DEQ NWR Cleanup and Tanks
700 NE Multnomah St., Suite #600,
Portland, OR 97232.
(503) 229-6148

From: DeMaria, Eva [mailto:DeMaria.Eva@epa.gov]
Sent: Thursday, October 15, 2015 3:47 PM
To: SUTTER Jennifer
Cc: Michael Allen (allenmc@cdmsmith.com); Sheldrake, Sean; MCCLINCY Matt; LIVERMAN Alex
Subject: RE: Evraz Oregon Steel Groundwater report

Hi Jennifer-

Please find attached EPA's comments on the EVRAZ Oregon Steel 2015 Beach and Bank Groundwater Monitoring Report. Please call or email if you have questions. Thanks.

Eva

From: SUTTER Jennifer [mailto:SUTTER.Jennifer@deq.state.or.us]
Sent: Monday, September 14, 2015 2:51 PM
To: DeMaria, Eva
Cc: SUTTER Jennifer
Subject: Evraz Oregon Steel Groundwater report

Hi Eva
We received this report last month and I'm realizing you did not get a copy. I've reviewed it but am waiting input from the project hydrogeologist. I had proposed no further source control action for groundwater a while back, but EPA raised some concerns due to manganese concentrations. There has been some discussion of modifying the approach to evaluating Mn which will likely impact this evaluation as well. If you don't have all the correspondence on the previous evaluation (NFA proposal, EPA comments, DEQ responses), let me know and I can provide. Here's a link to the latest data: ftp://deqftp2.deq.state.or.us\jsutter\2015-08-06_GW_Sampling_Report.pdf
See you next week.

Jennifer Sutter
Project Manager, DEQ NWR Cleanup and Tanks
700 NE Multnomah St., Suite #600,
Portland, OR 97232.
(503) 229-6148